Removing (Refitting)

- Place the vehicle on a lift.

Op. 1016A10 SOUND-PROOFING COVER - R.R

Op. 1064A31 HEAT SHIELD FOR TURBOCHARGER - R.R.

Op. 1076A48 CATALYTIC CONVERTER HEAT SHIELD - R.R

Op. 7055B54 PROTECTION/GUARD UNDER ENGINE -R.R.

Op. 0010T20 ENGINE COOLANT - CHANGE

Op. 1084B42 ENGINE OIL RETURN PIPE FROM TURBO - R + R

Op. 1084B40 ENGINE OIL DELIVERY PIPE TO TURBOCHARGER - R + R

Op. 1064A10 TURBO CHARGER - R + R

Op. 4450B04 RIGHT FRONT WHEEL - R.R.

Op. 7055B66 ENGINE COMPARTMENT DUST COVER IN RIGHT FRONT WHEEL ARCH - R.R.

Op. 1092G10 AUXILIARY COMPONENTS SINGLE DRIVE BELT - R.R.

Op. 1092A10 SERVICE PULLEY ON CRANKSHAFT - R.R.

Op. 1092G15 ENGINE COMPONENT SINGLE BELT MOVING TENSIONER - R.R. WITH BELT REMOVED

Op. 1092G20 ENGINE COMPONENT SINGLE BELT FIXED TENSIONER - R + R

Op. 1008B10 POWER UNIT FRONT SUPPORT FLEXIBLE MOUNTING (TIMING SIDE) - REPLACE

Op. 1032D12 TIMING SYSTEM PROTECTIVE COVER(S) - R + R

Op. 1008A46 TIMING SIDE POWER UNIT RIGID SUPPORT - R.R.

Op. 1032B10 TOOTHED TIMING BELT - R.R. FOR TIMING OR REPLACEMENT

Op. 1060G80 DIESEL ELECTRONIC INJECTION CONTROL UNIT - R.R

Op. 1060F50 FUEL RETURN MANIFOLD - R.R.

Op. 1060F20 PIPE FROM PRESSURE PUMP TO FUEL MANIFOLD - R.R.

Op. 1060F52 FUEL RETURN PIPE FROM INJECTORS - R.R.

Op. 1060F36 PIPES (ALL) FROM FUEL MANIFOLD TO INJECTORS - R.R.

Op. 1060F30 SINGLE FUEL MANIFOLD PIPE - R.R.

Op. 1060F10 INJECTORS - R.R.

Op. 1016B10 SINGLE CAMSHAFT HOUSING - REPLACE GASKET

- Temporarily fit the rigid support and the flexible mounting for the power unit, timing side.
- Remove the particulate filter, with reference to

Op. 1080B81 PARTICULATE FILTER (D.P.F.) - R.R.

Op. 1048B27 RIGID PIPE FOR AIR INLET TO THROTTLE BODY - R R

Op. 1060G50 THROTTLE BODY - R.R

Op. 1080C30 PIPE FROM E.G.R. SOLENOID VALVE TO INTAKE MANIFOLD - R.R.

Op. 5530B10 BATTERY - R+R

Op. 1080C82 E.G.R. - VALVE HEAT EXCHANGER ASSEMBLY - CONNECTOR PIPES - R.R.

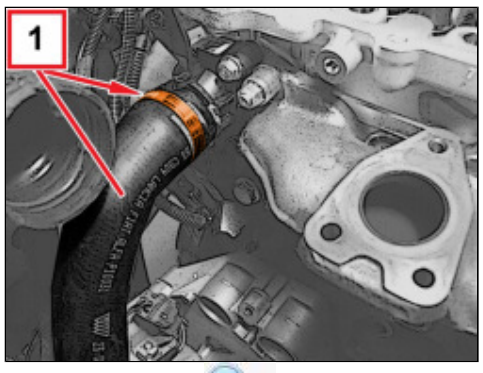
- Disconnect the electrical connection for the air pressure/temperature sensor.

	Description	Connector
-	Air pressure/temperature sensor	See K044 AIR TEMPERATURE/PRESSURE SENSOR

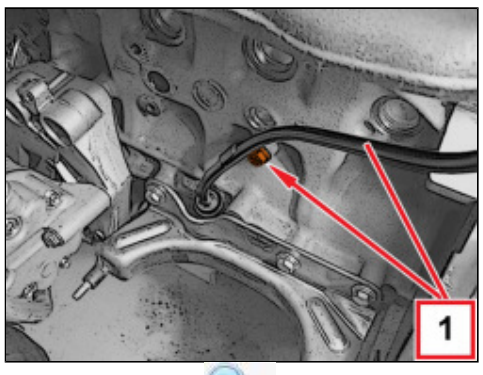
- Undo the upper screw fixing the oil vapour separator to the intake chamber.

- Disconnect the water pump return pipe quick connector, intake chamber side.

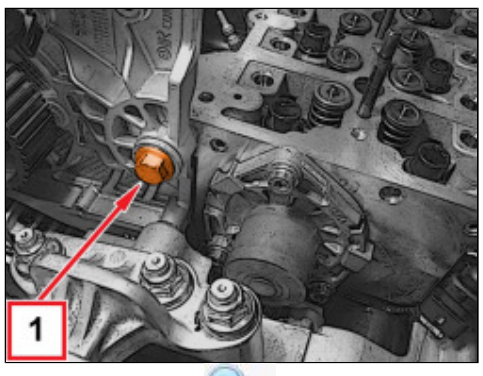
1. Loosen the band and disconnect the radiator water outlet hose, water pump side.



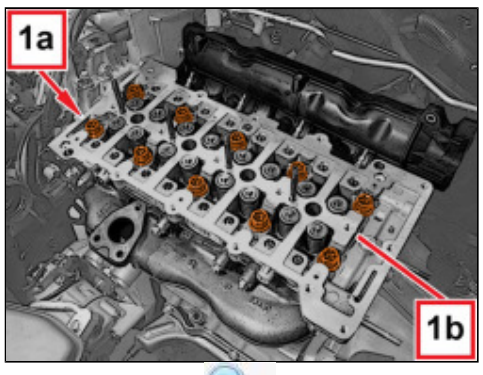
1. Undo the screw and remove the engine oil dipstick tube.



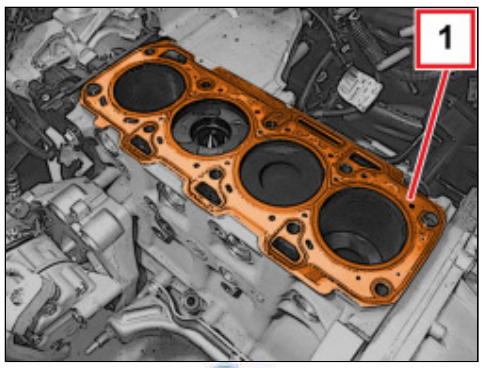
1. Undo the screw fixing the pressure pump mounting to the cylinder head.



1. Undo the bolts (1a) and remove the cylinder head assembly (1b).



1. Remove the gasket from the cylinder head.



If the remaining components have to be removed, refer to

Refitting (Removing)

- Clean any residues from the old gasket from the cylinder head lower surface.

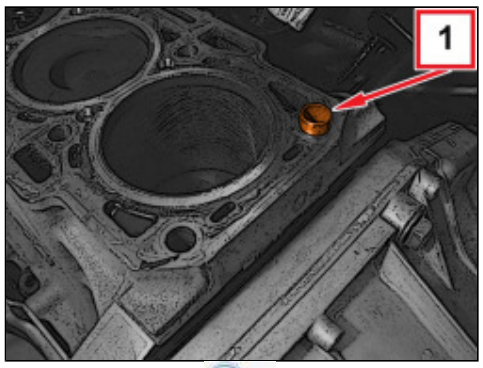
- Check that the flatness of the cylinder head lower surface corresponds to the recommended values.

Size	Value	Validity
Engine cylinder head lower surface flatness (mm)	< 0.1	2.0 JTDM

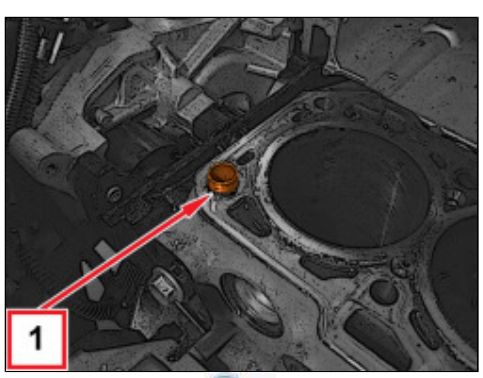
- If the planarity of the lower cylinder head plane does not correspond to the recommended figures, regrind it without exceeding the minimum permitted height.

Size	Value	Validity
Cylinder head nominal height (mm)	107 +/- 0.05	2.0 JTDM

1. Position the cylinder head locating bush, gearbox side, on the engine block.



1. Position the cylinder head locating bush, timing side, on the engine block.



The locating bushes between the engine block and cylinder head are shorter (12.5 mm) than the bushes between the cylinder head and the camshaft housing. Take great care not to reverse them as this could impair engine operation.

- Fit a new cylinder head gasket in position.

If the cylinder head does not have to be refaced, use a new gasket that is the same thickness as the one removed. If this is not the case, the thickness of the new cylinder head gasket must be determined (see operation 1004E20).

Position the first cylinder at TDC; rotate the crankshaft a further two teeth of the toothed drive pulley to lower the pistons, thereby preventing any resistance of the valves whilst fitting the cylinder head.

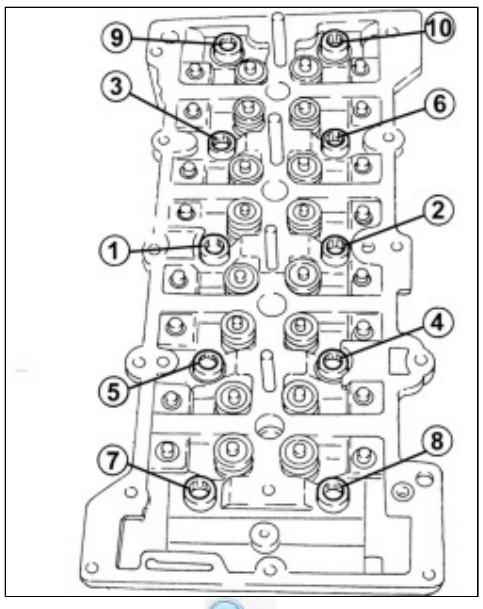
- Position the cylinder head on the crankcase.

Do not reuse the cylinder head screws more than four times because they undergo permanent lengthening whenever they are tightened.

If the previous tightening torque is unknown, a replacement is necessary.

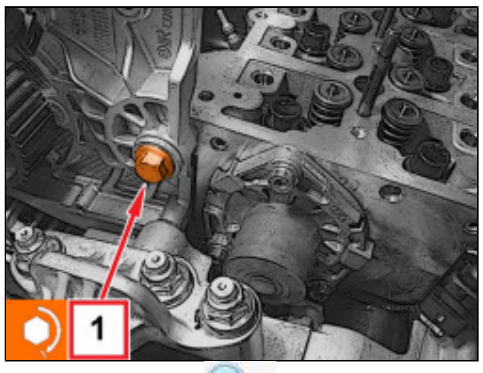
- Tighten the cylinder head fixing screws to the prescribed torque following the order shown in the figure.

Component	Fastening	Ø	Value (daNm)	Validity
Cylinder head	Screw	M12	6.2 ÷ 6.9 + 90° + 90°	2.0 JTDM



			+ 90°	

The value of 6.5 daN must be achieved with an initial tightening of 2 daN followed by an increment of 4.5 daN.



1. Tighten the screw fixing the pressure pump mounting to the cylinder head to the prescribed torque.

Component	Fastening	Ø	Value (daNm)	Validity
Pressure pump support - cylinder head side	Screw	M8	2.2 ÷ 2.7	2.0 JTDM

- Place the engine oil dipstick tube back in its housing and tighten the screw securing it to the engine block.

- Connect the radiator water outlet hose, water pump side and tighten the band.

- Connect the water pump return pipe quick connector, intake chamber side.

- Tighten the upper screw fixing the oil vapour separator pipe to the intake chamber.

- Connect the electrical connection for the air pressure/temperature sensor.

Op. 1080C82 E.G.R. - VALVE HEAT EXCHANGER ASSEMBLY - CONNECTOR PIPES - R.R.

Op. 5530B10 BATTERY - R+R

Op. 1080C30 PIPE FROM E.G.R. SOLENOID VALVE TO INTAKE MANIFOLD - R.R.

Op. 1060G50 THROTTLE BODY - R.R

Op. 1048B27 RIGID PIPE FOR AIR INLET TO THROTTLE BODY - R R

- Place the particulate filter in position with reference to

Op. 1080B81 PARTICULATE FILTER (D.P.F.) - R.R.

Op. 1016B10 SINGLE CAMSHAFT HOUSING - REPLACE GASKET

Op. 1060F10 INJECTORS - R.R.

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Op. 7055B66 ENGINE COMPARTMENT DUST COVER IN RIGHT FRONT WHEEL ARCH - R.R.

Op. 4450B04 RIGHT FRONT WHEEL - R.R.

Op. 1064A10 TURBO CHARGER - R + R

Op. 1084B40 ENGINE OIL DELIVERY PIPE TO TURBOCHARGER - R + R

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Op. 1076A48 CATALYTIC CONVERTER HEAT SHIELD - R.R

Op. 1064A31 HEAT SHIELD FOR TURBOCHARGER - R.R.

Op. 1016A10 SOUND-PROOFING COVER - R.R

- Remove the vehicle from the lift.